

REMARKS

Claims 1 and 2 have been amended and claims 6-27 have been added.
Accordingly, claims 1-27 are presently pending.

Respectfully submitted,

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By: 
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Patent

Docket No: 53852US013

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

OUDERKIRK, Andrew J. et al.

Group Art Unit:

PCT Appln. No. PCT/US99/01818

U.S. Serial No.: Unknown

Filed: Herewith

Examiner:

For: INFRARED INTERFERANE FILTER

MARKED UP AMENDMENTS AS REQUIRED UNDER 37 CFR 1.121

Commissioner for Patents

Washington, DC 20231

Dear Sir:

Applicants submit the following marked up version of the amendments submitted in the accompanying Preliminary Amendment. Claims 1 and 2 are amended and claims 6-27 have been added. Accordingly, claims 1-27 are presently pending. No new matter has been added.

Claims 1 and 2 are amended as follows:

1. (Amended) An optical filter comprising a dielectric reflective layer capable of reflecting a predetermined proportion of light in a specific wavelength region while transmitting a predetermined proportion of light in the visible region, the dielectric reflective layer comprising a first set of dielectric reflective layer units, constituted by a plurality of layers each formed of a first polymer, in combination with a second set of dielectric reflective layer units constituted by a plurality of layers each formed of a second polymer having a refractive index different from the first polymer, the first and second sets of dielectric reflective layer units being combined by alternately stacking the first polymer layers and second polymer layers, the dielectric reflective layer having a reflectance of not less than 70% of the light to be reflected and a transmittance of not less than 60% of light in the three primary color regions of the visible spectrum, including a blue region (wavelength; 430-490 nm), a green region (wavelength; 515-575 nm), and a red region (wavelength; 580-640 nm).

2. (Amended) The optical filter according to claim 1, wherein at least one of the first and second sets of dielectric reflective layer units includes a quarter-wavelength

layer, with the product of the thickness (d in nm) multiplied by the refractive index (n) of the polymer, i.e., $n \times d$, being one-fourth the wavelength of light to be reflected.

6. (New) An optical filter system comprising:
an infrared detector device; and
an optical filter comprising a dielectric reflective layer capable of reflecting at least 70% of radiation in an undesired wavelength region while transmitting a predetermined proportion of light in a desired wavelength region, the dielectric reflective layer comprising a set of first polymer layers comprising a first polymer in combination with a set of second polymer layers comprising a second polymer by alternately stacking the first polymer layers and the second polymer layers, wherein the dielectric reflective layer is curved.

7. (New) The optical filter system of claim 6, wherein the dielectric reflective layer is curved to provide a wide viewing angle in one plane and a limited viewing angle in an orthogonal plane.

8. (New) The optical filter system of claim 6, wherein the dielectric reflective layer has a spherical shape.

9. (New) The optical filter system of claim 6, wherein the dielectric reflective layer has a modified spherical shape to accommodate spectral shift.

10. (New) The optical filter system of claim 6, wherein the dielectric reflective layer is curved to follow the arc of a cylinder and a surface of the detector is positioned at the center of the arc.

11. (New) An optical filter comprising:
a dielectric reflective layer capable of reflecting at least 70% of radiation in an undesired wavelength region while transmitting a predetermined proportion of light in a desired wavelength region, the dielectric reflective layer comprising a set of first polymer layers comprising a first polymer in combination with a set of second polymer layers comprising a second polymer by alternately stacking the first polymer layers and the second polymer layers; and
a metallic mesh coated on the surface of the dielectric reflective film.

12. (New) The optical filter of claim 11, wherein the metallic mesh is coated on the dielectric reflective film by vapor deposition or sputtering.

13. (New) The optical filter of claim 11, further comprising a substrate upon which the dielectric reflective film is disposed.

14. (New) The optical filter of claim 13, wherein the substrate comprises glass.

15. (New) The optical filter of claim 13, further comprising an antireflective coatings disposed on a surface of the substrate.

16. (New) The optical filter of claim 11, further comprising a conductive material disposed on a grounding site of the dielectric reflective film.

17. (New) The optical filter of claim 16, wherein the conductive material comprises copper.

18. (New) The optical filter of claim 17, wherein the conductive material comprises a copper tape.

19. (New) The optical filter of claim 16, wherein the grounding site is positioned on an edge portion of the optical filter.

20. (New) An article comprising:
a source that emits radiation in an undesired wavelength range;
a dielectric reflective layer that is positioned to receive radiation from the source, wherein the dielectric reflective layer is capable of reflecting at least 70% of radiation in the undesired wavelength region while transmitting a predetermined proportion of light in a desired wavelength region, the dielectric reflective layer comprising a set of first polymer layers comprising a first polymer in combination with a set of second polymer layers comprising a second polymer by alternately stacking the first polymer layers and the second polymer layers; and
a metallic mesh coated on the surface of the dielectric reflective film.

21. (New) The article of claim 20, wherein the source comprises a plasma display device.

22. (New) The article of claim 20, wherein the metallic mesh is coated on the dielectric reflective film by vapor deposition or sputtering.

23. (New) The article of claim 20, further comprising a substrate upon which the dielectric reflective film is disposed.

24. (New) The article of claim 23, wherein the substrate comprises glass.

25. (New) The article of claim 23, further comprising an antireflective coatings disposed on a surface of the substrate.

26. (New) The article of claim 20, further comprising a conductive material disposed on a grounding site of the dielectric reflective film.

27. (New) The article of claim 26, wherein the grounding site is positioned on an edge portion of the optical filter.